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Robotics Technology Increasingly Important to Department of Defense

Unmanned Aircraft Now Perform Vital Functions, Robotic Ground Vehicles Still in Development; 2004 DARPA Grand Challenge to Showcase Potential of Autonomous Robotic Ground Vehicles

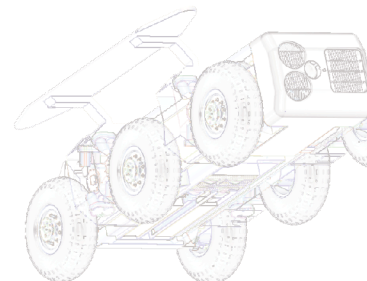
Arlington, VA – Operation Iraqi Freedom has provided a glimpse of the future of combat. Rather than massing huge ground forces as in the past, the engagement in Iraq has used quick troop movement, highly mobile weaponry, and sophisticated surveillance and information collection to gain the upper hand.

Another element of the strategy in Iraq that reflects this fundamental transformation is the increased use of unmanned systems. Unmanned air vehicles such as the Predator and the Global Hawk have carried out numerous reconnaissance and surveillance missions in Iraq, and the Predator also has performed precision airstrikes. Now the U.S. Department of Defense (DoD) is stepping up efforts to develop future autonomous robotic ground vehicles that would operate in concert with manned systems to form an integrated fighting force. The goal is not simply to replace people with machines, but to team people with robots to create a more capable, agile, and cost-effective force that lowers the risk of U.S. casualties.

As part of the effort, the Defense Advanced Research Projects Agency (DARPA), DoD's central research and development agency, is conducting the DARPA Grand Challenge for autonomous robotic ground vehicles. Scheduled for March 2004, it will cover a route of approximately 300 miles between Los Angeles and Las Vegas. The robotic vehicle that most quickly completes the route in less than the prescribed time will earn its team a cash prize of \$1 million. This challenge is intended to spur the accelerated development of autonomous robotic ground vehicle technology for military applications, and is the first in a series of Grand Challenges planned by DARPA.

"The intent of the DARPA Grand Challenge is to bring together innovative thinkers from a variety of fields who can help us make major strides in the deployment of autonomous robotic ground vehicles," said Col. Jose Negron, USAF, who is leading the Grand Challenge program for DARPA. "We are reaching out to a wide variety of fields for ideas and resources, ranging from the technology, defense and academic communities, to more non-traditional sectors such as amateur robotics enthusiasts, off-road racers and the entertainment industry."

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The Grand Challenge course will include a combination of off- and on-road terrain that will be cleared of interfering vehicles. It will include paved and unpaved roads, hard-packed and rocky trails, off-road brush and washes, dry lakebeds, water crossings, underpasses, and overpasses. The precise route will not be announced until just two hours prior to the Grand Challenge start to ensure that the robotic vehicles must find their way as they go. To develop the course DARPA is drawing on the expertise of SCORE International, which has more than 30 years of experience planning off-road vehicle events in California and Nevada.

In February, DARPA held a competitors' conference in Los Angeles that attracted more than 400 attendees from a variety of fields. It offered potential participants and interested observers an opportunity to find out how they can get involved, meet other contestants, and explore teaming opportunities. Grand Challenge organizers will continue to share information and facilitate team building through a variety of outreach activities leading up to October 14, 2003, when applicants' technical papers are due. The Grand Challenge web site – www.darpa.mil/grandchallenge – serves as the gateway for event information and has been updated with the official rules and information about registered teams.

DARPA is the central research and development organization for the U.S. Department of Defense (DoD). The Agency manages and directs basic and applied research and development projects for DoD, and pursues research and technology where the risk and payoff are both very high and where success may provide dramatic advances for traditional military roles and missions.

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